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EXAMINER

BARNES, CRYSTAL J

ART UNIT

PAPER NUMBER

2121

DATE MAILED: 07/30/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/746,302

Applicant(s)

BHATNAGAR, RAJIV

Examiner

Crystal J. Barnes

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 7 and 12 is/are rejected.
7) ☒ Claim(s) 2-6 and 8-11 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a Final Office Action in response to Amendment received on 01 June 2004. Claims 2 and 8-11 have been amended. Claims 1-12 remain pending in this application.

Drawings

2. The replacement drawing sheets were received on 01 June 2004. These drawings are acceptable.

Specification

3. The corrections to the specification were received on 01 June 2004. These corrections are acceptable.

Claim Objections

4. The corrections to claim 2 were received on 01 June 2004. These corrections are acceptable.

Claim Rejections - 35 USC § 112

5. The corrections to claims 8-11 were received on 01 June 2004. The claim rejection under 35 USC 112 is withdrawn.

Response to Arguments

6. Applicant's arguments, see Remarks page 21 paragraph 6, filed 01 June 2004, with respect to the rejection(s) of claim(s) 1-6, 8, 9 and 12 under 35 USC 103(a) as being unpatentable over USPN 4,245,309 to Kiefer in view of USPN 3,819,906 to Gould, Jr. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of USPN 4,245,309 to Kiefer and USPN 3,819,906 to Gould, Jr.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,245,309 to Kiefer in view of USPN 3,819,906 to Gould, Jr.

As per claim 1, the Kiefer reference discloses a configurable electronic controller appliances comprising a Non-Volatile Memory (see column 4 lines 4-10, "ROM"), a configurable Central Control Unit (see column 3 lines 33-38, "microprocessor"), one set of inputs of the said Central Control Unit ("microprocessor") are connected to the outputs of an Input Interface Unit (see column 3 lines 24-32, "input scanning network 56"), one set of outputs of the said Central Control Unit ("microprocessor") are fed back to the said Input Interface Unit ("input scanning network 56"), a second set of inputs of the said Central Control Unit ("microprocessor") receive user input data from the outputs of a User Interface Unit (see column 3 lines 33-46, "control panel switches 58, control panel display 68"), a second set of outputs of the said Central Control Unit ("microprocessor") are fed back to the said User Interface Unit ("control panel switches 58, control panel display 68"), a third input of the said Central Control Unit ("microprocessor") is connected to one output of a Load Interface Unit (see column 3 lines 33-38, "flood switch 60, drain feedback 62"), a third set of outputs from the said Central Control Unit ("microprocessor") are connected to the inputs of the said Load Interface Unit (see column 3 lines 40-43, "relays 50, relay drivers 67"), a fourth input of the said Central Control Unit ("microprocessor") receives

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power supply condition signals from a Supply Interface Unit (see column 3 lines 19-24, "power supply circuit"), the said Non-Volatile Memory Unit ("on-board ROM") provides non-volatile storage of data and is connected to main circuit blocks consisting of the said Central Control Unit ("microprocessor"), Input Interface Unit ("input scanning network 56"), User Interface Unit ("control panel switches 58, control panel display 68"), Load Interface Unit ("flood switch 60, drain feedback 62, relays 50, relay drivers 67"), and Supply Interface Unit ("power supply circuit"), the output of a Clock Generator circuit (see column 4 lines 7-9, "program counter, stack registers, data counter, auxiliary counter") is connected to one input of each of the said main circuit blocks and produces a clock signal required for their operation, the output of a Reset circuit (see column 3 lines 33-38, "zero crossing detector 66") is connected to one input of each of the said main circuit blocks and produces a reset signal required for their proper initialization ("external interrupts"), the arrangement between the components of the main circuit blocks is such that the said Central Control Unit ("microprocessor") receives sensed parameter data supplied by the various sensing devices ("door interlock switch 52, flood switch 60, drain feedback 62") in the appliance (see column 3 lines 11-14, "consumer appliances") from the said Input Interface Unit

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("input scanning network 56"), user requirement data from the said User Interface Unit ("control panel switches 58, control panel display 68"), load conditions data from the said Load Interface Unit ("flood switch 60, drain feedback 62, relays 50, relay drivers 67"), and the supply conditions data from the said Supply Interface Unit ("power supply circuit"), and processes all this data in accordance with its configured functionality (see column 3 lines 38-41, "control program") and then applies signals to the inputs of the said Load Interface Unit ("flood switch 60, drain feedback 62, relays 50, relay drivers 67") for operating the actuating devices (see column 3 lines 11-14, "motors and solenoids") in the appliance ("consumer appliances") for controlling its operation, and to the inputs of the said User Interface Unit ("control panel switches 58, control panel display 68") for providing feedback to the user (see column 3 lines 41-46, "audio feedback").

The Kiefer reference does not expressly disclose the arrangement of the main blocks of the present invention.

The Gould, Jr. reference discloses

(see column 1 lines 3-5, "... a range incorporating digital control and display panel means.")

(see figure 2 and column 2 lines 31-36, "... the panel 16 provides control information to a digital logic system 28 which controls the application of power to the various range heating elements 30 and also provides display information to the panel 16.")

(see figure 4 and column 3 lines 20-26, "... the instruction address pads 44 corresponding to the various instructions which may be entered from the display panel 16 are connected with an encoder 46 which generates a binary coded decimal instruction which is stored in an instruction latch 48.")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the microprocessor based control circuit taught by the Kiefer reference with the control circuit taught by the Gould, Jr. reference to illustrate the arrangement of the essential elements of a microprocessor to support various inputs/outputs. The arrangement of essential elements of a microprocessor is a modification that has been considered to be within the level of ordinary skill in the art.

One of ordinary skill in the art would have been motivated to utilize any desired arrangement to support various inputs/outputs of a microprocessor as long as central control was provided for the desired application. Most applications

utilizing central/master processors require inputs interfaces to acquire data and permit operator inputs and output interfaces to control actuators and display information to the operator. Depending on the application, more or less I/O interfaces may be needed.

As per claim 12, the Gould, Jr. reference discloses the said Clock Generator is an oscillator (see figure 17 and column 20 lines 8-9 , "oscillator 600") with a frequency preferably in the range 32 KHz to 25 MHz ("100 KHz").

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,245,309 to Kiefer in view of USPN 5,621,662 to Humphries et al.

As per claim 7, the Kiefer reference does not expressly disclose it further includes a Network Interface Unit that is connected to another output from the said Central Control Unit ("microprocessor") and provides an input to the said Central Control Unit ("microprocessor") for exchanging data between an external network and the said Central Control Unit ("microprocessor").

The Humphries et al. reference discloses

(see figure 3 and column 6 lines 39-41, "The network comprises a host computer 20 connected through a host interface 24 to a plurality of nodes ... the nodes may have other hardware devices connected to them ...")

(see column 17 lines 40-46, "The interface ... easy to use, yet is flexible enough to allow users to make changes in the system ...")

(see column 17 lines 50-52, "Devices are ... adjustable devices and on/off devices.")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the appliance control taught by the Kiefer reference within the home automation system taught by the Humphries et al. reference to include a consumer appliance as another device connected to the plurality of nodes.

One of ordinary skill in the art would have been motivated to include a consumer appliance as another device connected to the plurality of nodes to provide centralized control of subsystems/devices and an interface for connecting to a network.

Allowable Subject Matter

10. Claims 2-6 and 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

As per claim 2, the prior art of record taken alone or in combination fail to teach an arrangement such that a Configurable Logic Circuit uses data supplied by a Memory block, Counters and Timers block and RTC circuit to provide supply signals required to update the data stored in the Memory block, Counters and Timers block and RTC circuit for use in subsequent processing, especially in view of applicant's use of term "consists of".

As per claim 3, the prior art of record taken alone or in combination fail to teach an arrangement so that signals are applied one-at-a-time to the input of a Noise Filter for filtering and supplying to a Central Control Unit for processing, especially in view of applicant's use of term "consists of".

As per claim 4, the prior art of record taken alone or in combination fail to teach an arrangement so that signals are applied one-at-a-time to the input of a Noise Filter for filtering and supplying to a Central Control Unit for processing while simultaneously a Display and Audio Driver circuit drives the external display and audio output devices, especially in view of applicant's use of term "consists of".

As per claim 5, the prior art of record taken alone or in combination fail to teach an arrangement so that load current data received by Load Current Sensors is supplied to a Central Control Unit which furnishes signals for controlling the operation of Switch Drive Circuits through Latches, especially in view of applicant's use of term "consists of".

As per claim 6, the prior art of record taken alone or in combination fail to teach an arrangement so that sensed supply voltage is converted to digital form by a Supply Voltage Sense circuit and compared by Digital Comparators with reference data supplied by Non-Voltage Memory and the results of the comparison are latched by a Latch and furnished to a Central Control Unit as supply condition data, especially in view of applicant's use of term "consists of".

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is 703.306.5448. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703.308.3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cjb
27 July 2004

Ramesh Patel 7/28/04
RAMESH PATEL
PRIMARY EXAMINER
For Anthony Knight